

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-10-359
Relating to Certification of New Motor Vehicles

FORD MOTOR COMPANY

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Orders G-45-3 and G-45-4;

IT IS ORDERED AND RESOLVED: That 1988 model-year Ford Motor Company exhaust emission control systems are certified as described below for gasoline-powered passenger cars:

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems</u>
	<u>Liters (Cubic Inches)</u>		<u>(Special Features)</u>
JFM2.3V5HEH5	2.3	(140)	Exhaust Gas Recirculation Heated Oxygen Sensor Three-Way Catalyst (Electronic Port Fuel Injection) (On-Board Diagnostics)

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The following are the emission standards for this engine family:

<u>Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>
<u>Grams per Mile</u>	<u>Grams per Mile</u>	<u>Grams per mile</u>
0.39	7.0	0.7

The following are the certification emission values for this engine family:

<u>Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>
<u>Grams per Mile</u>	<u>Grams per Mile</u>	<u>Grams per Mile</u>
0.23	2.0	0.6

BE IT FURTHER RESOLVED: That the listed models were certified to the optional NOx emission standard thereby making the vehicle manufacturer subject to Section 1960.1.5 of Title 13, California Administrative Code which includes recall liability for emission control components up to 7 years or 75,000 miles if found defective by the Executive Officer.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Gasoline-Powered Motor Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" (Title 13, California Administrative Code, Section 2290) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high altitude requirements and highway emission standards as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Tune-Up Label Specifications" (Title 13, California Administrative Code, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the vehicle models listed in also comply with the "Malfunction and Diagnostic System for 1988 and Subsequent Model Year[s] ..." (Title 13, California Administrative Code, Section 1968) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2035 et seq.) with Health and Safety Code Section 43204.

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 21st day of August, 1987.


K. D. Drachand, Chief
Mobile Source Division

1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Page 1

Manufacturer Ford Motor Company Engine Family JFM2.3V5HEH5
 Evaporative Family 8HML Engine Type OTTO SPARK I-4
 Liters (CID) 2.3 (140)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance
 ECU-Electronic Control Unit
 EI-Electronic Ignition
 ESAC-Electronic Spark Advance
 Control
 VA-Vacuum Advance
 VR-Vacuum Retard

Exhaust Emissions Control System

AIP-Air Injection Pump
 AIV-Air Injection Valve
 DBC-Dual Bed Catalyst
 EGR-Exhaust Gas Recirculation
 EIC-Electronic Injection Control
 EM-Engine Modification
 OC-Oxidation Catalyst
 OS-Oxygen Sensor
 HOS-Heated Oxygen Sensor
 SPL-Smoke Puff Limiter or
 Throttle Delay
 TOC-Trap Oxidizer, Continual
 TOP-Trap Oxidizer, Periodical
 TWC-Three-way Catalyst
 WUOC-Warm-up Oxidation Catalyst
 WUTWC-Warm-up Three-way Catalyst

Special Features

CCV-Combustion
 Chamber Valve
 CFI-Central Fuel
 Injection or
 Throttle Body
 Injection
 DID-Diesel
 Injection-
 Direct
 DIP-Diesel
 Injection-
 Prechamber
 EFI-Electronic
 Fuel
 Injection
 IC-Intercooler
 or Aftercooler
 MFI-Mechanical
 Fuel
 Injection
 OBD-On-Board
 Diagnostics
 TC-Turbocharger

Fuel System

CFI, CL, DID, DIP, EFI, MFI
 nV-nVenturi Carburetor

VEHICLE MODELS:

TEMPO 54D - 4 DR SEDAN
 TEMPO 66D - 2 DR SEDAN
 TOPAZ 54D - 4 DR SEDAN
 TOPAZ 66D - 2 DR SEDAN

Engine: Front X Mid Rear
 Drive: FWD X RWD 4WD Full Time X 4WD Part Time

1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Page 2Passenger Cars X light-Duty Trucks Medium-Duty Vehicles Gas X Diesel Manufacturer FORD MOTOR COMPANY Engine Family JFM2.3V5HEH5
Model (CID) 2.3L (140) Eng. Type OTTO SPARK I-4Emission Control Sys. (Special Features) ECU,ESAC,DBC,EGR,HOS,TWC,EFI,OB

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
26DR00A	TEMPO-66D	A-4	3125	E8TF-BEA	E67E-BB	E6AE-BA	E73C-AA (2WD) E73X-AD (4WD)
	9.1 1/	(4WD)					
	9.2 2/						
	7.4 1/	A-4	3000				
	7.3 2/	(2WD)					
	TEMPO-54D	A-4	3125				
	9.1 1/	(4WD)					
	9.2 2/						
	7.4 1/	A-4	3000				
	7.3 2/	(2WD)					
	TOPAZ-66D	A-4	3125				
	9.1 1/	(4WD)					
	9.2 2/						
	7.4 1/	A-4	3000				
	7.3 2/	(2WD)					
	TOPAZ-54D	A-4	3125				
	9.1 1/	(4WD)					
	9.2 2/						
	7.4 1/	A-4	3000				
	7.3 2/	(2WD)					
1/ GOODYEAR TIRES 2/ MICHILIN TIRES							

Comments: See page one for abbreviations and evaporative emission family identification.
Please refer to manufactureres HP list for correct dyno test HP settings based on model and
equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue Revisions:

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Page 3Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer FORD MOTOR COMPANY Engine Family JFM2.3V5HEH5
Model (CID) 2.3L (140) Eng. Type OTTO SPARK I-4Emission Control Sys. (Special Features) ECU,ESAC,DBC,EGR,HOS,TWC,EFI,OBD

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
26DROON	TEMPO-66D	A-4	3125	E8TF-BEA	E67E-BB	E6AE-BA	E73C-AA (2WD) E73X-AD (4WD)
	8.3 1/	(4WD)					
	8.4 2/						
	6.7 1/	A-4	3000				
	6.6 2/	(2WD)					
	6.7 1/	A-4	2875				
	6.6 2/	(2WD)					
	TEMPO-54D	A-4	3125				
	8.3 1/	(4WD)					
	8.4 2/						
	6.7 1/	A-4	3000				
	6.6 2/	(2WD)					
	TOPAZ-66D	A-4	3125				
	8.3 1/	(4WD)					
	8.4 2/						
	6.7 1/	A-4	3000				
	6.6 2/	(2WD)					
	6.7 1/	A-4	2875				
	6.6 2/	(2WD)					
	TOPAZ-54D						
	8.3 1/	A-4	3125				
	8.4 2/	(4WD)					
	6.7 1/	A-4	3000				
	6.6 2/	(2WD)					
1/ GOODYEAR TIRES							
2/ MICHILIN TIRES							

Comments: See page one for abbreviations and evaporative emission family identification.
Please refer to manufactureres HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

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1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

E.O. # A-10-359Page 4Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer FORD MOTOR COMPANY Engine Family JFM2.3V5HEH5Displacement (CID) 2.3L (140) Eng. Type OTTO SPARK I-4Emission Control Sys. (Special Features) ECU,ESAC,DBC,EGR,HOS,TWC,EFI,OBD

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
25CR00A	TEMPO-66D 7.4 1/ 7.3 2/ 7.4 1/ 7.3 2/ TEMPO-54D 7.4 1/ 7.3 2/ TOPAZ-66D 7.4 1/ 7.3 2/ 7.4 1/ 7.3 2/ TOPAZ-54D 7.4 1/ 7.3 2/	M-4 M-4 M-4	3000 2875 3000 3000 3000 2875	E8TF-BBA	E67E-BB	E6AE-BA	E73C-AA
25CR00N	TEMPO-66D 6.7 1/ 6.6 2/ 1/ GOODYEAR TIRES 2/ MICHILIN TIRES	M-4	2875				

Comments: See page one for abbreviations and evaporative emission family identification.
 Please refer to manufactureres HP list for correct dyno test HP settings based on model and
 equipment. If two test weights are listed, the lower weight will be used for testing.

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1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

E.O. # A-10-359Page 5Passenger Cars X Light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer FORD MOTOR COMPANY Engine Family JFM2.3V5HEH5Displacement (CID) 2.3L (140) Eng. Type OTTO SPARK I-4Emission Control Sys. (Special Features) ECU, ESAC, DBC, EGR, HOS, TWC, EFI, OBD

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
25CR00N	TEMPO-54D 6.7 1/ 6.6 2/ 6.7 1/ 6.6 2/ TOPAZ-66D 6.7 6.6 TOPAZ-54D 6.7 1/ 6.6 2/ 6.7 1/ 6.6 2/	M-4	3000 2875 3000 3000 2875	E8TF-BBA	E67E-BB	E6AE-BA	E73C-AA
25QR00A	TEMPO-66D 7.4 1/ 7.3 2/ 7.4 1/ 7.3 2/ TEMPO-54D 7.4 1/ 7.3 2/ 1/ GOODYEAR TIRES 2/ MICHELIN TIRES	M-5	2875 3000 3000	E8TF-AXA	E67E-BB	E6AE-BA	E73C-AA

Comments: See page one for abbreviations and evaporative emission family identification.
 Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

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E.O. # A-10-359Page 6Passenger Cars X light-Duty Trucks Medium-Duty Vehicles Gas X Diesel Manufacturer FORD MOTOR COMPANY Engine Family JFM2.3V5HEH5Displacement (CID) 2.3L (140) Eng. Type OTTO SPARK I-4Emission Control Sys. (Special Features) ECU,ESAC,DBC,EGR,HOS,TWC,EFI,OB

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
25QR00A	TOPAZ-66D 7.4 1/ 7.3 2/ 7.4 1/ 7.3 2/ TOPAZ-54D 7.4 1/ 7.3 2/	M-5	2875 3000 3000	E8TF-AXA	E67E-BB	E6AE-BA	E73C-AA
25QF00N	TEMPO-66D 6.7 1/ 6.6 2/ TEMPO-54D 6.7 1/ 6.6 2/ TOPAZ-66D 6.7 1/ 6.6 2/ TOPAZ-54D 6.7 1/ 6.6 2/ 6.7 1/ 6.6 2/	M-5	2875 2875 2875 2875 3000				
	1/ GOODYEAR TIRES 2/ MICHELIN TIRES						

Comments: See page one for abbreviations and evaporative emission family identification.
Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

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E.O. # A-10-359Page 7Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer FORD MOTOR COMPANY Engine Family JFM2.3V5HEH5Displacement (CID) 2.3L (140) Eng. Type OTTO SPARK I-4Emission Control Sys. (Special Features) ECU,ESAC,DBC,EGR,HOS,TWC,EFI,OB

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
26RROOA	TEMPO-66D 7.4 1/ 7.3 2/ TEMPO-54D 7.4 1/ 7.3 2/ TOPAZ-66D 7.4 1/ 7.3 2/ TOPAZ-54D 7.4 1/ 7.3 2/	A-3 (2WD)	3000 3000 3000 3000	E8TF-AZC	E67E-BB	E6AE-BA	E73C-AA
26RR00N	TEMPO-66D 6.7 1/ 6.6 2/ TEMPO-54D 6.7 1/ 6.6 2/ TOPAZ-66D 6.7 1/ 6.6 2/ TOPAZ-54D 6.7 1/ 6.6 2/	A-3 (2WD)	3000 3000 3000 3000				
	1/ GOODYEAR TIRES 2/ MICHILIN TIRES						

Comments: See page one for abbreviations and evaporative emission family identification.
Please refer to manufactureres HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

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Page 9Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer FORD MOTOR COMPANY Engine Family JFM2.3V5HEH5Liter (CID) 2.3L (140) Eng. Tyoe OTTO SPARK I-4Emission Control Sys. (Special Features) ECU,ESAC,DBC,EGR,HOS,TWC,EFI,OB

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
826DR10N	TEMPO-66D	A-4	3125	E8TF-BEB	E67E-BB	E6AE-BA	E73C-AA
	8.3 1/	(4WD)					(2WD)
	8.4 2/						
	6.7 1/	A-4	3000				E73X-AD
	6.6 2/	(2WD)					(4WD)
	6.7 1/	A-4	2875				
	6.6 2/	(2WD)					
	TEMPO-54D	A-4	3125				
	8.3 1/	(4WD)					
	8.4 2/						
	6.7 1/	A-4	3000				
	6.6 2/	(2WD)					
	TOPAZ-66D	A-4	3125				
	8.3 1/	(4WD)					
	8.4 2/						
	6.7 1/	A-4	3000				
	6.6 2/	(2WD)					
	6.7 1/	A-4	2875				
	6.6 2/	(2WD)					
	TOPAZ-54D						
	8.3 1/	A-4	3125				
	8.4 2/	(4WD)					
6.7 1/	A-4	3000					
6.6 2/	(2WD)						
1/ GOODYEAR TIRES 2/ MICHILIN TIRES							

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufactureres HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue 9-9-87 Revisions:

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E.O. # A-10-359Page 10Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer Ford Motor Company Engine Family JFM2.3V5HEH5Liter (CID) 2.3L (140) Eng. Tyoe OTTO SPARK I-4Emission Control Sys. (Special Features) ECU,ESAC,DBC,EGR,HOS,TWC,EFI,QBD

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
826ER00A	TEMPO-66D 7.4 1/ 7.3 2/ TEMPO-54D 7.4 1/ 7.3 2/ TOPAZ-66D 7.4 1/ 7.3 2/ TOPAZ-54D 7.4 1/ 7.3 2/ 1/ GOODYEAR TIRES 2/ MICHILIN TIRES	A-4 A-4 A-4 A-4	3000 3000 3000 3000	E8TF-AZC	E67E-BB	E6AE-BA	E73C-AA

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufactureres HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue 10-19-87 Revisions:

1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer Ford Motor Company Engine Family JFM2.3V5HEH5Liter (CID) 2.3L (140) Eng. Tyoe OTTO SPARK I-4Emission Control Sys. (Special Features) ECU, ESAC, DBC, EGR, HOS, TWC, EFI, OBD

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
826EROON	TEMPO-66D	A-4	3000	E8TF-AZC	E67E-BB	E6AE-BA	E73C-AA
	6.7 1/						
	6.6 2/						
	6.7 1/	2875					
	6.6 2/						
	TEMPO-54D	A-4	3000				
	6.7 1/						
	6.6 2/						
	TOPAZ-66D	A-4	3000				
	6.7 1/						
	6.6 2/						
	TOPAZ-54D	A-4	3000				
	6.7 1/						
	6.6 2/						
1/ GOODYEAR TIRES 2/ MICHILIN TIRES							

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufactureres HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue 10-19-87 Revisions:

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Page 12Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer Ford Motor Company Engine Family JFM2.3V5HEH5Liter (CID) 2.3L (140) _____ Eng. Tyoe OTTO SPARK I-4Emission Control Sys. (Special Features) ECU, ESAC, DBC, EGR, HOS, TWC, EFL, OBD

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
825FR00A	TEMPO-66D 7.4 1/ 7.3 2/ TEMPO-54D 7.4 1/ 7.3 2/ 7.4 1/ 7.3 2/ TOPAZ-66D 7.4 1/ 7.3 2/ TOPAZ-54D 7.4 1/ 7.3 2/ 7.4 1/ 7.3 2/ 1/ GOODYEAR TIRES 2/ MICHILIN TIRES	M-5	2875 2875 3000 2875 2875 3000	E8TF-AXB	E67E-BB	E6AE-BA	E73C-AA

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufactureres HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue 11-25-87 Revisions:

1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

E.O. # A-10-359Page 13Passenger Cars X light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas X Diesel _____Manufacturer Ford Motor Company Engine Family JFM2.3V5HEH5Liter (CID) 2.3L (140) Eng. Tyoe OTTO SPARK I-4Emission Control Sys. (Special Features) ECU, ESAC, DBC, EGR, HOS, TWC, EFI, OBD

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) Part No. 12A650	Fuel System Part No. 9F593	EGR Valve Part No. 9D475	Catalyst Part No. 5E212
825FR00N	TEMPO-66D 6.7 1/ 6.6 2/ TEMPO-54D 6.7 1/ 6.6 2/ TOPAZ-66D 6.7 1/ 6.6 2/ TOPAZ-54D 6.7 1/ 6.6 2/ 1/ GOODYEAR TIRES 2/ MICHELIN TIRES	M-5	2875 2875 2875 2875	E8TF-AXB	E67E-BB	E6AE-BA	E73C-AA

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufactureres HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

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